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 AMERICAN CYANAMID CO *DE 19909541-A1
 1998.03.06 1998-036491(+1998US-036491) (1999.10.14) C07D
 239/46, A01N 43/54, C07D 471/12, 487/12, 239/32
 New pyrimidine derivatives useful as herbicides, especially for
 selective weed control
 C2000-106912
 Addnl. Data: SCHEIBLICH S, MAIER T, KLEEMAN A.
 BALTRUSCHAT H S
 1999.03.04 1999DE-1009541

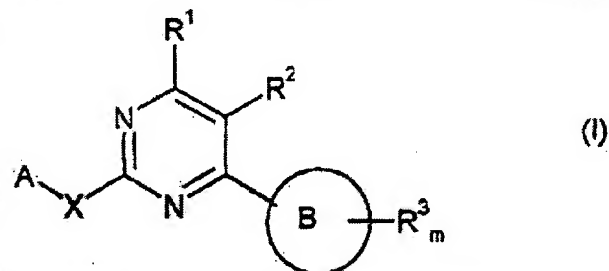
NOVELTY

2-Aryloxy- or 2-arylthio-6-aryl-pyrimidine derivatives (I) are new.

DETAILED DESCRIPTION

2-Aryloxy- or 2-arylthio-6-aryl-pyrimidine derivatives of formula (I) are new.

C(7-D12, 14-V2) 2



A = optionally substituted aryl, optionally substituted 5- or 6-membered heteroaryl or difluorobenzodioxolyl;

B = phenyl or thienyl;

m = 0-5;

R¹ = halogen, CN or optionally substituted alkyl, alkenyl, alkynyl, alkoxyalkyl, haloalkyl, alkoxy, haloalkoxy, alkylthio, alkylamino or dialkylamino;

R² = H, halogen, CN or optionally substituted alkyl, alkoxy, haloalkyl

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or haloalkoxy;
 R³ = halogen, NO₂, CN, haloalkyl, haloalkoxy, haloalkylthio, SF₅, or optionally substituted alkyl, alkenyl, alkynyl, alkoxy, alkoxyalkyl, alkoxyalkoxy, alkylthio, alkylsulfinyl or alkylsulfonyl;

X = O or S.

ACTIVITY

Herbicidal. In a pre-emergence test, 2-(2-chloro-4-pyridyloxy)-6-methyl-4-(4-trifluoromethylphenyl)-pyrimidine at an application rate of 0.4 kg/ha gave 100% control of poppy (*Papaver rhoeas*) and 91-99% control of chickweed (*Stellaria media*).

MECHANISM OF ACTION

None given.

USE

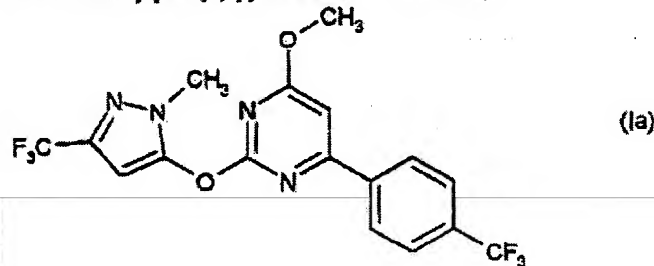
(I) are herbicides useful for selective weed control, e.g. for pre-emergence weed control in winter wheat, maize, soya, cotton or rice, or post-emergence weed control in winter wheat or maize.

ADVANTAGE

(I) have good selectivity and biodegradability. In a pre-emergence test, 2-(2-chloro-4-pyridyloxy)-6-methyl-4-(4-trifluoromethylphenyl)-pyrimidine at an application rate of 0.4 kg/ha caused no damage to winter wheat, maize, soya, cotton or rice.

SPECIFIC COMPOUNDS

9 Compounds (I) are specifically claimed, e.g. 4-methoxy-2-(1-methyl-3-trifluoromethyl-5-pyrazolyloxy)-6-(4-trifluoromethylphenyl)-pyrimidine of formula (Ia).



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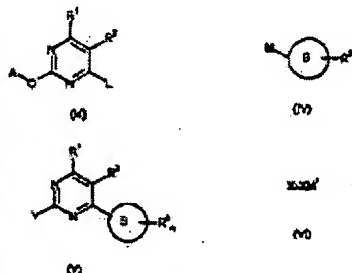
EXAMPLE

A mixture of 4-methyl-2-methylsulfonyl-6-(4-trifluoromethylphenyl)-pyrimidine (0.32 g), 3-trifluoromethylphenol (0.18 g), potassium carbonate (0.25 g) and acetonitrile (25 ml) was refluxed for 4 hours, diluted with water and extracted with methyl acetate to give 4-methyl-2-(3-trifluoromethylphenyl)-6-(4-trifluoromethylphenyl)-pyrimidine (0.39 g), m.p. 124-127°C.

TECHNOLOGY FOCUS

Organic Chemistry - Preparation: (I) is prepared by:

- (1) reacting a compound of formula (III) with a metal compound of formula (IV) and oxidizing the product when L is hydrogen; or
- (2) reacting a compound of formula (V) with a compound of formula (VI).



L = H or a leaving group;
 M = Li, Mg, Zn, B or Sn;
 Y = a leaving group; and
 M' = H or metal.
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